

Corrosion Mitigation of 18 Pipeline Casings Beneath Roadways in West Bengal, India Using Zerion™ PPL and PGH Gel Powders

Location: West Bengal, India | Date: Aug 2025 | Contractors: Kalpataru Projects International | Client: Confidential

Project Summary

ZERUST® Integrity Solutions implemented a corrosion mitigation system for multiple pipeline casings in West Bengal, India, designed to protect the annular space between carrier and casing pipes. Field engineers supervised the initial phase, training the contractor team on-site. Injection was successfully completed on one casing with stable flow and pressure, while the remaining casings were deferred after failing pressure tests to prevent inhibitor loss into surrounding soil.

Asset & Site Details

Asset ID: 18 Pipe Casings

Casing Diameter: 32 inches (813 mm)

Pipeline Diameter: 26 inches (660 mm)

Length (Average): 70 feet (21.3 meters)

Vent Pipes: Two (2) per casing – Top and Bottom

Elevation Changes: Minimal (None)

Notes: Pipeline casings installed beneath asphalted and metaled roads, each constructed with vent access at both ends for inhibitor injection.

Weather During Application: Average Temperature: 90°F (32°C); Average Humidity: 87%. Predominantly cloudy with intermittent rain and high humidity throughout the work period.



Solution Implemented

ZERUST® Products Used

- ZERUST® Zerion™ PPL Corrosion Inhibitor Powder
- ZERUST® Zerion™ PGH-300 and PGH-400 Gel Powders

Implementation Details

A corrosion inhibitor blend consisting of Zerion™ PPL and potable water was prepared and enhanced with Zerion™ PGH-300 and PGH-400 gel powders. The mixture was injected into the annular space between the carrier and casing pipes through vent lines using a 2-inch eductor injection system.

The eductor system utilized the venturi effect for in-line mixing, ensuring uniform inhibitor dispersion. Throughout the injection, flow and pressure were closely monitored to verify stability and proper delivery. Once the demonstration was successfully completed, the contractor team was trained and equipped to perform the remaining injections independently after sealing and pressure testing were verified.

Outcome

The successful injection validated the performance of the Zerion™ PPL and PGH inhibitor system and confirmed effective field implementation under challenging conditions. The contractor team gained hands-on training for future applications, and sealing repairs were identified as the next step before completing the remaining injections to ensure long-term corrosion protection.

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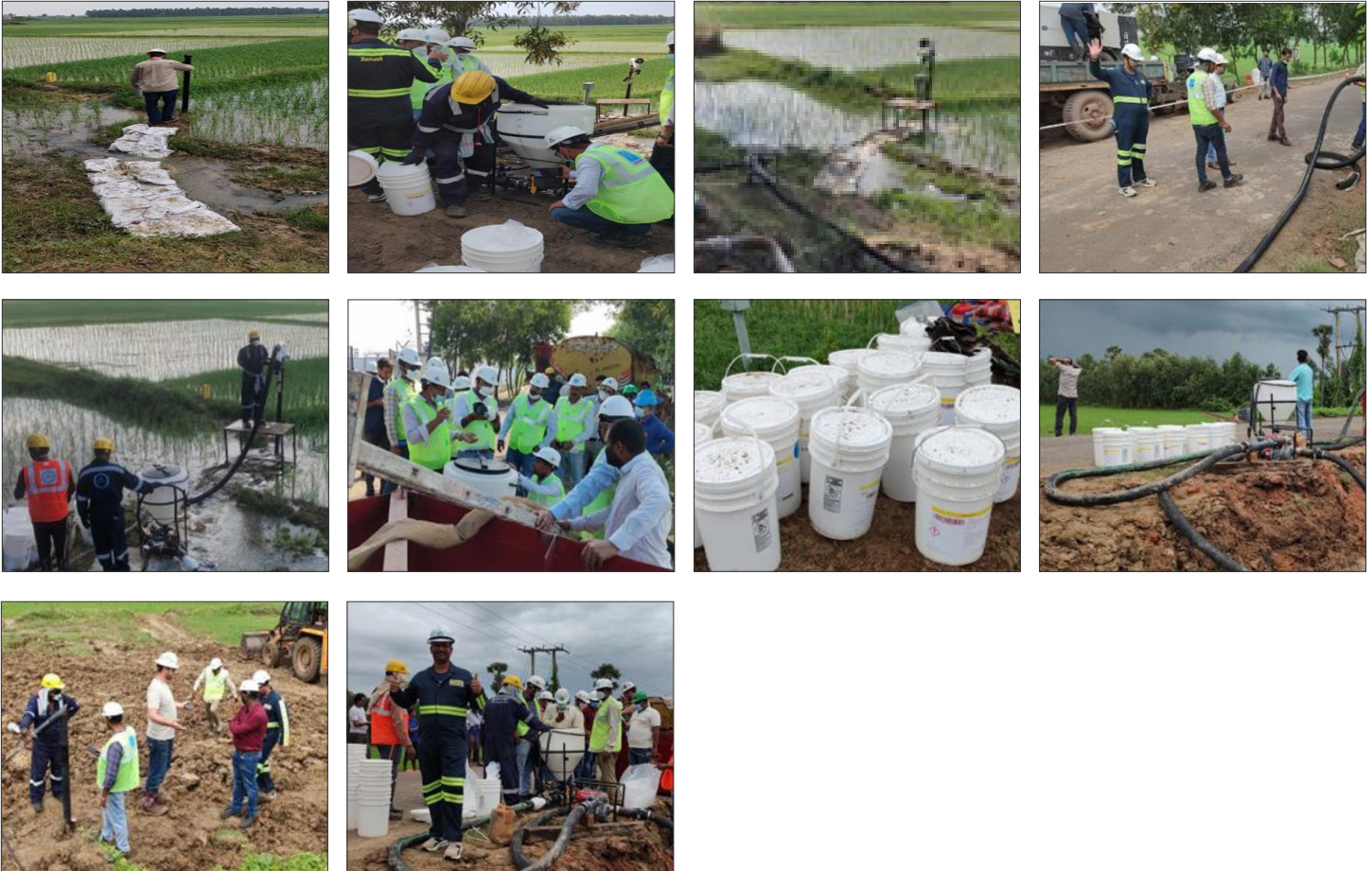


project case studies

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Project Photos



† DECLARATION

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With over 50 years of experience, ZERUST® Integrity Solutions™, a division of Northern Technologies International Corporation (NTIC), creates unique inhibitor-based corrosion prevention solutions to serve terminals, pipelines, exploration and production, equipment suppliers, transportation sectors, and more.

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